

WHAT IS CLAIMED IS:

1. An automated production system for wiring harness, comprising:

a wire measuring/cutting apparatus which cuts a wire to a specified measured length,

a pair of wire clamps which clamps near ends of the wire cut at the measured length,

a conveying apparatus which sequentially respectively drives the wire clamps, which holds the clamped wire let to suspend, along a straight wire conveyance path,

a terminal crimping apparatus including a pressing machine arranged along the wire conveyance path, an applicator driven by the pressing machine, and a terminal reel which feeds terminal belt to the applicator, and adapted to crimp a terminal into connection with at least one end of the wire conveyed by the wire clamps, wherein the terminal reel and the applicator are arranged obliquely so that the terminals are fed in a direction oblique to the wire conveyance path, and

a switching unit which individually switches the positions of the respective wire clamps between a pressing position in which the end of the wire can be fed to the applicator to be connected with the terminal and a normal position in which the end of the wire is transferred to and from the remaining apparatuses.

2. An automated production system for wiring harness according to claim 1, wherein sets of the terminal reels and the applicators are arranged in zigzag manner.

3. An automated production system for wiring harness according to claim 1, wherein the conveying apparatus includes a table which individually drives the respective wire clamps along the wire conveyance path.

4. An automated production system for wiring harness according to claim 1, wherein sets of terminal reels and a pair of applicators are arranged in an offset manner and the conveying apparatus includes a table which individually drives the respective wire clamps along the wire conveyance path so that the wire ends are individually fed to the respective applicators.

5. An automated production system for wiring harness according to claim 1, wherein the switching unit includes:

a table conveyed by the conveying apparatus,

a block fixed to the table,

a pivotal member mounted on the block and pivotal about a vertical axis,

a defining member which defines a pivoting range of the pivotal member, and

an actuator which drives the wire clamp fixed to the pivotal member by pivoting the pivotal member within the pivoting range permitted by the defining member.

6. An automated production system for wiring harness according to claim 5, wherein the defining member includes an adjusting member which adjusts the pivoting range.

7. An automated production system for wiring harness according to claim 5, further comprising:

an actuator, provided between the pivotal member and the wire clamp, which drives the wire clamp upward and downward relative to the pivotal member.

8. An automated production system for wiring harness according to claim 1, further comprising:

a wire measuring/cutting station where the wire is dispensed from a roll and cut to the specified measured length.

an end processing station where the ends of the wire cut to the specified measured length are processed.

a terminal connecting station where the terminal is connected with at least one processed end of the wire by the terminal crimping apparatus.

an inspection station where an inspection of the connected terminal is conducted, and

a transferring station where the terminal of the wire having passed the inspection is transferred.

9. An automated production system for wiring harness according to claim 8, wherein the conveying apparatus reciprocally drives the pair of wire clamps to convey the wire from the wire measuring/cutting station to the transferring station and return the same path after a transfer at the transferring station.

10. An automated production system for wiring harness according to claim 8, wherein sets of the terminal reels and the applicators are arranged in zigzag manner.

11. An automated production system for wiring harness according to claim 8, wherein the conveying apparatus includes a table which individually drives the respective wire clamps along the wire conveyance path.

12. An automated production system for wiring harness according to claim 8, wherein sets of terminal reels and a pair of applicators are arranged in an offset manner and the conveying apparatus includes a table which individually drives the respective wire clamps along the wire conveyance path so that the wire ends are individually fed to the respective

applicators.

13. An automated production system for wiring harness according to claim 8, wherein the switching unit includes:

a table conveyed by the conveying apparatus,

a block fixed to the table,

a pivotal member mounted on the block and pivotal about a vertical axis,

a defining member which defines a pivoting range of the pivotal member, and

an actuator which drives the wire clamp fixed to the pivotal member by pivoting the pivotal member within the pivoting range permitted by the defining member.

14. An automated production system for wiring harness according to claim 13, wherein the defining member includes an adjusting member which adjusts the pivoting range.

15. An automated production system for wiring harness according to claim 13, further comprising:

an actuator, provided between the pivotal member and the wire clamp, which drives the wire clamp upward and downward relative to the pivotal member.

16. A terminal crimping apparatus usable in an

automated production system for wiring harness comprising a wire measuring/cutting apparatus which cuts a wire to a specified measured length, a pair of wire clamps which clamps near the ends of the wire cut at the measured length, and a conveying apparatus which sequentially and respectively drives the wire clamps, which holds the clamped wire let to suspend, along a straight wire conveyance path, comprising:

a main body facing an intermediate portion of the wire conveyance path,

an applicator, provided with the main body, which crimps a terminal into connection with at least one end of the conveyed wire,

a pressing machine, provided with the main body, which drives the applicator, and

a terminal reel which feeds terminal belt to the applicator,

wherein the terminal reel and the applicator are arranged in such positions that the terminals are fed in a direction oblique to the wire conveyance path.

17. A terminal crimping apparatus according to claim 16, wherein the terminal reel and the applicator are assembled into one unit.